**Science and Education**

For a student with general interests in science and education, a project is available to study science literacy among UA undergraduates, as a means to improve science teaching of non-science majors. The research is being published in peer-reviewed journals and presented at national conferences. Skills required: basic computer and writing skills. Desirable skills: databases and statistical analysis. Pay rate: $9/hour, preferably for 15-20 hours/week. Contact Professor Chris Impey, cimpey@as.arizona.edu, phone 621-6522.

**Galaxy Evolution**

For a student interested in an observational project studying Galaxy Evolution, the project would involve reducing and analyzing Optical/Infrared and perhaps also mm spectroscopy. Contact Dr. Brenda Frye, bfrye@as.arizona.edu
**Instrumentation**

We are interested in evaluating the use of various image sensor cameras for use in telescope guiding systems. The project would involve literature searches as well as a camera purchase and its evaluation in the lab followed by testing at a Steward telescope. Students must be US Citizens or permanent residents due to ITAR regulations. Contact Dr. Michael Lesser, lesser@itl.arizona.edu.

**LSST Simulation**

The Large Synoptic Survey Telescope's photon simulator will be used to simulate images of blended galaxies. The project will investigate the ability of current software to successfully "deblend" the galaxies and measure their colors. Contact Dr. Alexandra Abate, abate@email.arizona.edu

**Astrochemistry / Radio Astronomy**

IRC+10216 is an evolved Carbon star with a dusty envelope. Spectral line surveys in the (sub)millimeter have characterized the very rich chemistry in the surrounding circum-stellar envelope (CSE) of this star. One aspect of the chemistry which is not well characterized is the deuteration ratio in molecular species in the CSE. This project will perform very deep observations of the rotational lines of DCN and DNC (3-2) in the 1mm band using the Submillimeter Telescope on Mnt Graham to search for and constrain the abundance of deuterated HCN and HNC. The student will be responsible for calibrating and reducing observations obtained during the fall and winter and has the opportunity to be involved in the observing for this project. Contact: Dr. Lucy Ziurys, lziurys@as.arizona.edu